REMARKS

Claims 1 through 12 and new Claim 13 are pending in the application.

Claims 1 and 2 have been amended to recite the term "surface energy" in lieu of the term "surface tension" and to conform the associated unit. Support for this amendment can be found in the Application-as-filed, for example on Page 3, lines 10 through 15.

Claim 1 has further been amended to reflect advantageous food casings comprising a single-layer whose polymer is based on polyamide and/or copolyamide alone, or comprising an inner layer whose polymer is based on polyamide and/or copolyamide alone. Support for this amendment can be found in the Application-as-filed, for example on Page 8, line 6 through Page 9, line 13.

Claim 11 has been canceled without prejudice.

Claim 12 has been amended to depend from and conform with Claim 1.

Claim 13 has been added to complete the record for examination and highlight advantageous embodiments of the invention.

Claim 13 is directed to advantageous embodiments in which the liquid-smoke-impregnated multilayered food casing has an internal a surface energy of 35 to 45 dyn/cm^2, the casing or the polyamide inner layer of the casing has a swelling value of at least 5%, and the food casing is either single-layered and the thickness of the single-layered casing is 50 to 130 μm or the food casing is multilayered and the thickness of the polyamide inner layer of the multilayered casing is 15 to 70 μm. Support for this amendment can be found in the Application-as-filed, for example in Claims 1, 2, 9 and 10 as-filed, as well as on Page 4, lines 5 through 10 and Page 8, lines 7 through 8.

Reexamination and reconsideration of this application, withdrawal of all rejections, and formal notification of the allowability of the pending claims are earnestly solicited in light of the remarks which follow.

Section 112 Rejection

Claims 1 through 12 stand rejected over the recitation "surface tension". The Office Action urges that "surface tension" is a property of liquids, not solids. Without addressing the merits of the rejection and solely to advance prosecution of the case, Claims 1 and 2 have been amended to recite the term "surface energy" in lieu of the term "surface tension." As noted above, support for this amendment can be found in the Application-as-filed on Page 3, lines 10 through 15 (e.g. noting a unit of energy, i.e. "dyn" and further stating that the layer is "very readily wettable"). Applicants further respectfully submit that the subject matter of the claim need not be described using the exact same terms or *in haec verba*. MPEP 2163.02.

Accordingly, Applicants respectfully request withdrawal of this rejection.

Section 101 / 112 Rejection

Claims 11 and 12 stand rejected under 35 U.S.C. 101 and 112, over the recitation of a "use." Claim 11 has been canceled, in conformance with United States practice. Claim 12 has been amended to depend from and conform with Claim 1. Applicants' Representative respectfully regrets any inconvenience the foregoing oversight may have caused.

Accordingly, Applicants respectfully request withdrawal of the foregoing rejection.

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The Claimed Invention is Patentable

in Light of the Art of Record

Claims 1, 2, 4 through 7 and 9 through 12 stand rejected over United States Patent Application Publication No. 2003/0059502 to Krallman et al., which matured into United States Patent No. 7,022,357 ("US 357"), in light of United States Patent No. 5,399,427 to Stenger et al. ("US 427"). Claim 3 stands rejected over US 357 in light of US 427 and further in view of United States Patent No. 4,897,295 to Erk et al. ("US 295"). Claim 8 stands rejected over US 357 in light of US 427 and further in view of United States Patent No. 6,221,410 to Ramesh et al. ("US 410").

It may be useful to briefly consider the invention before turning to the merits of the rejection.

Cheese and sausage products may be smoked by various methods to modify their flavor and color, as well as preserve them. Conventional liquid-smoke-impregnated food casings, such as those disclosed in US 357, typically require an absorption time of at least 5 days. Even with such lengthy dwell times, heretofore known casings absorb relatively little liquid smoke, and can transfer only a little smoke color to the food. Consequently, browning agents must be added to conventional casings to reinforce the color. In that regard, the Examiner's attention is kindly directed to the Application-as-filed on Page 2, lines 3 through 17 (discussing DE 101 24 581 A1, whose US equivalent is US 357).

Altogether unexpectedly, Applicants have found that liquid-smoke-impregnated, tubular, single-layer or multilayered food casing comprising a single-layer which is based on polyamide and/or copolyamide alone, or comprising an inner layer based on polyamide and/or copolyamide alone, in which the inside of the casing has a surface energy of greater than 28 dyn/cm^2 may readily be impregnated on the inside with liquid smoke, such that an additional browning agent is not required.

In particularly advantageous embodiments, Applicants have found that food casings comprising a single-layer which is based on polyamide and/or copolyamide, or an inner layer based on polyamide and/or copolyamide, in which (i) the inside of the casing has a surface energy of 35 to 45 dyn/cm^2 ; (ii) the casing or the polyamide inner layer of the casing has a swelling value of at least 5%; and (iii) the food casing is either single-layered and the thickness of the single-layered casing is 50 to 130 μm or the food casing is multilayered and the thickness of the polyamide inner layer of the multilayered casing is 15 to 70 μm are particularly readily impregnated on the inside with liquid smoke, such that an additional browning agent is likewise not required, as recited in newly added Claim 13.

Applicants respectfully submit that the claimed invention is patentable in light of the cited references, considered either alone or in combination.

US 357 is directed to processes of applying a mixture of liquid smoke, browning agents to an at least three layered film and allowing the mixture to remain in contact with the film for at least 5 days. (Col. 1, lines 17 – 21 and Col. 2, lines 30 - 35). US 357 expressly notes the incorporation of browning agent on numerous occasions. (Col. 1, lines 17 – 18; Col. 2, lines 52 – 57; Col. 3, lines 25 – 27; Col. 3, lines 35 – 38; Col. 3, lines 43 – 60). In fact, US 357 indicates a minimum of 20 % browning agent within its coating mixtutre. (Col. 3, lines 37 – 38). US discloses that its liquid smoke and browning agent mixture is allowed to "act on" the casing for at least 5 days. (Col. 3, lines 19 – 20). US 357 further notes that the application of its "particular mixture of liquid smoke and browning agent" results in an increased depth of smoke flavor penetration. (Col. 3, lines 25 – 29). US 357 is silent as to the surface energy of its films.

Applicants respectfully submit that US 357 does not teach or suggest the recited liquid-smoke-impregnated food casing in which the casing is impregnated with liquid smoke, but not with an additional browning agent. Applicants further respectfully submit that the Office Action's assertion on Page 5, Ref. No. 13 that it would have been obvious to have deleted the

browning agent of US 357 is pure conjecture, particularly in light of US 357's required 5 day soaking period.

Nor does US 357, altogether silent as to surface energy, teach or suggest the recited liquid-smoke-impregnated food casing in which the inside of the casing has a surface energy of greater than 28 dyn/cm^2. Applicants similarly respectfully submit that the Office Action's assertion on Page 5, Ref. No. 14 as to the surface energy of US 357 likewise constitutes conjecture.

And US 357 most certainly does not teach or suggest that inventive food casings having the recited surface energy and a swelling value of at least 5% which are further either a single-layered film having a thickness of up to 130 μm or a multilayered film having a polyamide inner layer with a thickness of up to 70 μm would result in liquid-smoke-impregnated food casings that do not require an additional browning agent, as recited in newly added Claim 13. In fact, Applicants respectfully submit that to alter US 357 so as to avoid its required browning agent would alter its stated principle of operation, which clearly indicates that the required browning agent results in an increased depth of smoke flavor penetration.

Accordingly, Applicants respectfully submit that the claimed invention is patentable in light of US 357, considered either alone or in combination with the remaining art of record.

US 427 does not cure the deficiencies in US 357.

In contrast to the recited liquid-smoke-impregnated food casings, US 427 is directed to single-layered films with improved UV barrier. US 427 initially discloses that nylon is thought to provide "unsteady" stretching behavior. (Col. 2, lines 12 – 26). US 427 goes on to forms single-layered films from a mixture of polyamide/copolyamide, polyolefin and pigment. (Col. 3, lines 24 – 34). The polyolefin may be present in amounts of up to 30%. (Col. 4, lines 59 – 61). US 427 touts that its films have a "relatively low" thickness, preferably ranging from about 25 to

40 microns. (Col. 6, lines 2 – 5). US 427 is silent as to the surface energy of its films.

Applicants respectfully submit that US 427, directed to improved UV barrier properties, does not teach or suggest the recited liquid-smoke-impregnated food casing, much less such casings impregnated with liquid smoke, but not with an additional browning agent.

Nor does US 427, altogether silent as to surface energy, teach or suggest the recited liquid-smoke-impregnated food casing in which the inside of the casing has a surface energy of greater than 28 dyn/cm^2.

And US 427, requiring polyolefin within its polymer blend, most certainly does not teach or suggest advantageous food casings comprising a single-layer whose polymer is based on polyamide and/or copolyamide alone, or comprising an inner layer whose polymer is based on polyamide and/or copolyamide alone, as recited in Claim 1 as-amended. In fact, Applicants respectfully submit that to omit the required polyolefin from US 427 would render it unfit for its intended purpose.

US 427 likewise fails to teach or suggest that inventive food casings having the recited surface energy and a swelling value of at least 5% which are further either a single-layered film having a thickness of up to 130 μm or a multilayered film having a polyamide inner layer with a thickness of up to 70 μm would result in liquid-smoke-impregnated food casings that do not require an additional browning agent, as recited in newly added Claim 13. US 427 instead expressly teaches that its single-layered UV resistant films should have a thickness of less than 50 microns.

Accordingly, Applicants respectfully submit that the claimed invention is patentable in light of US 427, considered either alone or in combination with the remaining art of record.

There would have been no motivation to have combined US 357, directed to food casings containing a mixture of liquid smoke and browning agent, and US 427, directed to UV resistant food casings. These are altogether different problems solved, to say the least.

However, even if one had combined US 357 and US 427 (which they did not), the claimed invention would not result.

The combination specifically does not teach or suggest the recited casings impregnated with liquid smoke, but not with an additional browning agent. US 427, expressly requiring browning agent, instead teaches away from such casings.

Nor does the combination, both silent as to surface energies, teach or suggest the recited liquid-smoke-impregnated food casing in which the inside of the casing has a surface energy of greater than 28 dyn/cm^2.

And the combination most certainly does not teach or suggest advantageous food casings comprising either a single-layer whose polymer is based on polyamide and/or copolyamide alone, or comprising an inner layer whose polymer is based on polyamide and/or copolyamide alone, as recited in Claim 1 as-amended. US 357 instead clearly teaches away from such films.

The combination likewise fails to teach or suggest that inventive food casings having the recited surface energy and a swelling value of at least 5% which are further either a single-layered film having a thickness of up to 130 μm or a multilayered film having a polyamide inner layer with a thickness of up to 70 μm would result in liquid-smoke-impregnated food casings that do not require an additional browning agent, as recited in newly added Claim 13.

Accordingly, Applicants respectfully submit that the claimed invention is patentable in light of US 357 and US 427, considered either alone or in combination.

Claim 3 is likewise patentable in further light of US 295.

US 295 is directed to sausage casings that avoid tightening lubricating agents and moisture retaining agents. (Col. 2, lines 62 – Col. 3, line 2). In contrast to the inventive smoke-containing casings, US 295 expressly states that its casings contain "no additional additives," other than water. (Col. 5, lines 28 – 31).

US 295, generically directed to casings avoiding lubricating and moisture retaining agents, does not teach or suggest inventive liquid-smoke-impregnated food casings, much less that casings incorporating polyamide or co-polyamide which further exhibit a surface energy of greater than 28 dyn/cm^2 may be impregnated on the inside with liquid smoke in the absence of an additional browning agent.

There likewise would have been no motivation to have combined US 357, directed to food casings containing a mixture of liquid smoke and browning agent, US 427, directed to UV resistant food casings, and US 295, directed to casings avoiding lubricating agents. These are also altogether different problems solved.

However, even if one had combined US 357, US 427 and US 295 (which they did not), the claimed invention would not result.

The combination more specifically fails to teach or suggest that liquid-smoke-impregnated food casings incorporating polyamide or co-polyamide which further exhibit a surface energy of greater than 28 dyn/cm^2 may be impregnated on the inside with liquid smoke in the absence of an additional browning agent.

Accordingly, Applicants respectfully submit that the claimed invention is patentable in light of US 357, US 427, and US 295, considered either alone or in combination.

Claim 8 is similarly patentable in further view of US 410.

US 410 is directed to back-seamed casings incorporating a polyamide layer disposed between outermost layers of polyolefin. (Col. 3, lines 55 – 65; Col. 4, lines 35 – 36; Col. 4, lines 45 – 46; Col. 16, lines 6 – 9; Col. 21, lines 3 - 14). The center polyamide layer of US 410 purportedly produces films that do not neck down during back-seaming. (Col. 3, lines 20 – 26; Col. 18, lines 17 – 18; Col. 18, lines 44 - 46). US 410 expressly cautions that use of polyamide in contact with food can provide "too much meat-adhesion." (Col. 3, lines 42 – 43). US 410 goes on to generically note that its casings may be corona treated. (Col. 5, lines 55 – 56 and Col. 27, line 64 – Col. 28, line 3). Such corona treatment is said to increase adhesion of its films to "proteinaceous material." (Col. 28, lines 13 – 15). US 410 further indicates that a core layer of polyamide is not required for all applications. (Col. 26, lines 13 – 16). US 410 generically indicates that its films may include additives, such as talc, antioxidants and the like. (Col. 27, lines 23 – 30).

US 410, broadly directed to films having improved processing characteristics, does not teach or suggest the inventive liquid-smoke-impregnated food casings, much less such casings impregnated on the inside with liquid smoke, but not with an additional browning agent.

US 410, repeatedly teaching polyolefin layers in contact with food, further does not teach or suggest liquid-smoke-impregnated food casings comprising a single-layer whose polymer is based on polyamide and/or copolyamide alone, or comprising an inner layer whose polymer is based on polyamide and/or copolyamide alone. In fact, US 410 teaches away from such casings by indicating that polyamide imparts "too much meat-adhesion."

And US 410 most certainly does not teach or suggest such polyamide and/or copolyamide casings in which the inside of the casing has been corona-treated so as to provide a surface energy of greater than 28 dyn/cm^2. As noted above, US 410 expressly teaches that casings formed from polyamides inherently impart "too much meat-adhesion." US 410 also expressly

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teaches that corona treatment further increases adhesion of films to "proteinaceous material." Consequently, there would have been no motivation to have corona treated the inventive polyamide and/or copolyamide casings as there would have been no motivation of success.

There likewise would have been no motivation to have combined US 357, directed to food casings containing a mixture of liquid smoke and browning agent, US 427, directed to UV resistant food casings, and US 410, directed to films that do not neck down during back-seaming. These are also altogether different problems solved.

However, even if one had combined US 357, US 427 and US 410 (which they did not), the claimed invention would not result.

The combination more specifically fails to teach or suggest that liquid-smoke-impregnated food casings incorporating polyamide or co-polyamide as a sole or inside layer which are corona treated to a surface energy of greater than 28 dyn/cm^2 may be impregnated on the inside with liquid smoke in the absence of an additional browning agent. As noted above, US 410 instead strongly teaches away from the claimed invention.

Accordingly, Applicants respectfully submit that the claimed invention is patentable in light of US 357, US 427, and US 410, considered either alone or in combination.

CONCLUSION

It is respectfully submitted that Applicants have made a significant and important contribution to the art, which is neither disclosed nor suggested in the art. It is believed that all of pending Claims 1 through 10, 12 and 13 are now in condition for immediate allowance. It is requested that the Examiner telephone the undersigned if any questions remain to expedite examination of this application.

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It is not believed that extensions of time or fees are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time and/or fees are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required is hereby authorized to be charged to Deposit Account No. 50-2193.

Respectfully submitted,

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I hereby certify that this correspondence is being FACSIMILE transmitted to the United States Patent and Trademark telephone no. 571-273-8300 on August 28, 2008.

Claire Wygand

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